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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,075	06/09/2005	Kunihiro Fukuoka	0171-1212PUS1	8929

2292 7590 02/03/2009  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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02/03/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/538,075	<b>Applicant(s)</b> FUKUOKA ET AL.	
	<b>Examiner</b> Elizabeth M. Cole	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 4,5 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,7 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/23/08;6/9/05</u>  | 6) <input type="checkbox"/> Other: _____                          |

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1. Applicant's election with traverse of Group I in the reply filed on 11/21/08 is acknowledged. The traversal is on the ground(s) that there would not be a burden to examine both groups. This is not found persuasive because the search as well as the issues involved would be divergent between the two groups. Further, it is noted that lack of unity of invention can be found without showing a burden. .

The requirement is still deemed proper and is therefore made FINAL.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmacher et al, U.S. Patent No. 4,310,373. Schuhmacher et al discloses a fabric (see examples), comprising thermally fusible polyurethane fibers. The fibers have a melting point of less than 180 degrees C. See col. 4, lines 15-25. The fusible fabric can be used in making garments such as raincoats. See example 1. Schuhmacher et al differs from the claimed invention because it does not disclose the claimed retention of tenacity after heat treatment at 100% extension. However, Schuhmacher et al teaches that the strength of the polyurethane fibers can be controlled through the choice of the diols employed. See col. 4, lines 34-63. Therefore, it would have been obvious to one of ordinary skill in the art to have controlled the strength and thus the tenacity of the fiber by selecting diols which produced a fiber having the desired strength through the process of routine experimentation.

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4. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmacher et al, U.S. Patent No. 4,310,373 as applied to claim 6 above, and further in view of Wilkinson, U.S. Patent Application Publication No. 2002/0161137.

Schuhmacher et al discloses a polyurethane fiber as set forth above. Schuhmacher differs from the claimed invention because it does not teach the claimed method of obtaining the polyurethane elastic filaments. Wilkinson teaches that obtaining thermoplastic polyurethane elastic filaments by reacting a both ended isocyanate-terminated prepolymer prepared by the reaction of a polyol and a diisocyanate with a both end hydroxyl-terminated prepolymer prepared by the reaction of a polyol, a diisocyanate and a low molecular weight diol, (see paragraphs 0022-0024 and claim 10), wherein at least 50wt% of the starting polyol is a polyether polyol (paragraph 0035) produces polyurethane fibers having good tenacity and recovery, (see abstract).

Therefore, it would have been obvious to have formed the polyurethane fibers of Schuhmacher by the process taught by Wilkinson, in order to obtain a material having excellent tenacity and recovery.

5. Claims 1-2, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmacher et al, U.S. Patent No. 4,310,373 in view of JP 60-224847. Schuhmacher et al discloses a fabric (see examples), comprising thermally fusible polyurethane fibers. The fibers have a melting point of less than 180 degrees C. See col. 4, lines 15-25. The fusible fabric can be used in making garments such as raincoats. See example 1. Schuhmacher et al differs from the claimed invention because it does not disclose the claimed retention of tenacity after heat treatment at 100% extension. However,

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Schuhmacher et al teaches that the strength of the polyurethane fibers can be controlled through the choice of the diols employed. See col. 4, lines 34-63. Therefore, it would have been obvious to one of ordinary skill in the art to have controlled the strength and thus the tenacity of the fabric by selecting diols which produced a fabric having the desired strength through the process of routine experimentation.

Schumacher et al also differs from the claimed invention because while Schumacher et al does teach employing the thermoplastic polyurethane fibers as a bonding element in fabrics and garments made from the fabrics, it does not specifically teach that the fabrics are woven or knitted fabrics. JP '847 teaches employing bondable elastic fibers in fabrics which also comprise other non-elastic fibers and bonding by melting and fusing the elastic fibers at crossover points. See abstract provided by Applicant.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the bonding fibers of Schumacher et al as bonding elastic fibers in other types of fabrics including woven and knitted fabrics as taught by JP '847. With regard to claim 2, it would have been obvious to have incorporated additional higher melting point polyurethane fibers into the garment, in order to assure the elasticity of the fabric by providing elastic fibers which would maintain their fiber structure completely at bonding temperatures. It is noted that a translation of JP '847 has been ordered and will be included with the next office action.

6. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmacher et al, U.S. Patent No. 4,310, 373 in view of JP '60-224847 as applied to claims 1-2 above, and further in view of Wilkinson, U.S. Patent Application Publication

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No. 2002/0161137. Schuhmacher et al discloses a polyurethane fiber as set forth above. Schuhmacher differs from the claimed invention because it does not teach the claimed method of obtaining the polyurethane elastic filaments. Wilkinson teaches that obtaining thermoplastic polyurethane elastic filaments by reacting a both ended isocyanate-terminated prepolymer prepared by the reaction of a polyol and a diisocyanate with a both end hydroxy-terminated prepolymer prepared by the reaction of a polyol, a diisocyanate and a low molecular weight diol, (see paragraphs 0022-0024 and claim 10), wherein at least 50wt% of the starting polyol is a polyether polyol (paragraph 0035) produces polyurethane fibers having good tenacity and recovery, (see abstract). Therefore, it would have been obvious to have formed the polyurethane fibers of Schuhmacher by the process taught by Wilkinson, in order to obtain a material having excellent tenacity and recovery.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

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/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794

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